REMARKS

An Office Action dated December 6, 2005, has been received and its contents carefully noted. In order to advance prosecution, active claims 100-108, 110-137, 139, and 176-178 have been amended herein to place them in the best condition for allowance. Accompanying this Amendment is a Request for Correction of The Scanned Application in order to correct formatting errors in all of the Tables and all of the Formulas which are apparent in the Published Application. Additionally accompanying this Amendment is a Request for Approval of New Formal Drawings to which is attached proposed substitute Figures 1-24. While the Examiner has indicated that the drawings of record are acceptable, Applicant notes that there is shading in the drawings of record which obscure certain drawing details. In making these requests, Applicant is seeking to place the Application in the best condition for allowance.

Claims 100-108, 110-137, 139, and 176-178 are now active in this Application as being directed to an embodiment which was elected in responding to a restriction requirement and are all submitted to be in allowable condition for the reasons set forth in the following.

Claims 1-28, 48, 83, 109, 138, 159 and 175 have been cancelled. Claims 29-47, 49-82, 84-99, 140-158, and 160-174 are pending in this Application but stand withdrawn as having been non-elected. Upon allowance of elected claims 100-108, 110-137, 139, and 176-178, Applicant authorizes the Examiner to cancel withdrawn claims 29-47, 49-82, 84-99, 140-158, and 160-174 without prejudice to the filing of Divisional Applications in an Examiner's Amendment to place the Application in allowable condition.

Substance Of An Interview:

Applicant expresses appreciation to Examiner Zeender for the personal interview of February 23, 2006. An Unofficial Proposal for changes to claims 100 and 103, and addition of method claims 179 and 180 was telefaxed to the Examiner prior to the personal interview. The following summarizes the substance of the interview as required.

1. Undersigned Counsel drew the Examiner's attention to the fact that Status boxes 2a (Final) and 2b (non-final) of the Office Action were both checked so that the status of the Office Action was unclear. The Examiner confirmed that the Office Action dated December 6, 2005 was a non-final Office Action.

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2. Agreement was reached that that the 35 U.S.C. §112, second paragraph, rejection would be overcome by Applicant's proposed amendment to claims 100 and 103 deleting "at least one". The Examiner, however, took the position that proposed amendment of claims 100 and 103 to recite "system and method" does not satisfy the requirements of 35 U.S.C. §101. The Examiner additionally mentioned redundancy in claims 100 and 103 regarding "matching" and requested rewording of these claims.

3. The Examiner took the position that newly proposed method claims 179 and 180 would be subject to a restriction by the original presentation requirement.

4. Undersigned Counsel presented arguments in support of patentability of the subject matter of the claims active in this Application.

A. Different Problem - Counsel drew the Examiner's attention to the fact that, while Durand et al. relates to computer matching of people and to an "automated method" for two-way matching of traits with corresponding preferences to obtain a better result (see the Abstract), Durand et al. teach including a human element in its matching system so that the system may not be fairly said to be "fully automated" (see Fig. 5, operator review of outgoing message 65, and Col. 9, lines 46-51, "the reviewer scores the new user's outgoing message

B. Narrow Interpretation of AI - Counsel argued that AI has to be interpreted narrowly based on what Durand et al. describes and exemplifies, relying on the Kurzweil excerpt (See attached Appendix A.) to support this assertion.

C. No Suggestion – Counsel argued that since AI in Durand et al. amounts to referencing a table of data stored in a database using program code, it may not be fairly said that Durand et al. teach or suggest iteration, i.e., cyclically generating requests for additional information as a cascading series generated by the program code by referencing a knowledge base in a fully automated

D. No motivation – Counsel pointed out that Applicant is not claiming to have invented expert systems or knowledge bases containing facts and rules for problem solving or the logical construct of iteration. Since the Examiner acknowledges that Durand et al. do not teach a knowledge base *per se*, Counsel argued that Applicant considers that there is no suggestion in Durand et al. which would have led or motivated an artisan to modify the matching system of Durand et al. to include a knowledge base

Claim 103 – Counsel argued that a claim 103 is directed to verification and correction for the purpose of detecting misrepresentations due to puffing and outright lies regarding a provider's

qualifications and skills. Misrepresentation detection is neither taught nor suggested in Durand et al. which merely asks the user and providers to verify that the information they gave is correct.

The rejection of claims 100-102, 107, 108, 110-137, 139, and 1776 [sic 176]-177 under 35 U.S.C. §112, second paragraph, is submitted obviated by the amendments made to independent claims 100 and 103 to delete "at least one of" as agreed to during the personal interview of February 23, 2006.

The rejection of claims 100-108, 110-137, 139, and 176-178 under 35 U.S.C. §103(a) as being unpatentably obvious over Durand et al. (US 6,272,467 B1) in view of Applicant's own admission of prior art is respectfully traversed.

Applicants do not agree that the combined disclosures of Durand et al. and Applicant's admitted prior art as identified by the Examiner set out a *prima facie* case of obviousness against active claims 100-108, 110-137, 139, and 176-178, because the modification of the matching system of Durand et al. to include a knowledge base finds <u>no teaching or suggestion in Durand et al.</u> which would have led an artisan to make such a modification so that no *prima facie* case of obviousness may be fairly said to have been made out. It is Applicant's position that the modification of the matching system of Durand et al. to include a knowledge base was enabled only by the impermissible hindsight gleaned from a perusal of Applicant's disclosure. It is Applicant's further position that even if – for the sake of argument – the modification proposed as obvious by the Examiner is made, the <u>combination does not meet Applicant's claims</u> for the reasons which follow.

<u>A. Different Problem</u> - While Durand et al. relates to computer matching of people and to an "automated method" for two-way matching of traits with corresponding preferences to obtain a better result (see, e.g., the Abstract), Durand et al. teach including a human element in its matching system so that the system may not be fairly said to be "fully automated" (see Fig. 5, operator review of outgoing message 65, and Col. 9, lines 46-51, "the reviewer scores the new user's outgoing message"). This means that Durand et al. do not address Applicant's problem of substantially eliminating subjective bias from humans in their matching system so that Applicant's solution of cyclically generating requests for additional information as a cascading series generated by the program code by referencing a knowledge base in a fully automated way may not be fairly said to be taught or suggested by Durand et al.

B. Narrow Interpretation of AI – The latest book by Ray Kurzweil, a world renowned expert on Artificial Intelligence (hereinafter "AI"), is titled The Singularity is Near, Viking Penguin Group Pub., 2005. Kurzweil notes that AI at any given time is simply whatever we have not yet accomplished in machine intelligence attempting to emulate human intelligence since, as soon as we accomplish it, it becomes just programming. (See attached Appendix A (an excerpt from The Singularity Is Near , page 265, and Appendix B (definitions of AI.) Thus, Applicant submits that AI has to be interpreted narrowly based on what Durand et al. describes and exemplifies and relies on the Kurzweil excerpt (see Appendix A) to support this assertion.

Durand et al. teach branching questions to create an initial profile of user and provider information, for example, profile database file 4 (see, e.g., Col. 6, lines 9-45, and Fig. 1). Durand et al. mention AI in Col. 3, lines 8-27, and Col. 20, lines 20-28. In Col. 3, Durand et al. teach providing a more realistic match by using "build" rather than "weight" as a matching criterion and by translating "weight" to "build" by referencing height and weight tables stored in a database using program code. For other matching applications, Col. 20, lines 22-25, describes using AI "based upon known or measured relationships from demographic or other studies", for example, information about geographic areas near to a user's preference in the case of a home finding service. However, Applicant submits that, from a reading of Durand et al. as a whole, AI in Durand et al. amounts to only creating an initial profile and referencing a table of data stored in a database using program code without any knowledge base containing facts and rules for problem solving, without requests for additional information, and without iteration.

AI in Durand et al. is not used to refine matching by applying additional information obtained from the user, provider and/or third parties unlike the present invention. In fact, Durand et al. is not considered to describe any actual AI methods! In Durand et al., adjustment of representations (matching criteria), adjustment of score through bonuses and penalties, and creation of derivative variables is based upon internally available information or already acquired data, not upon additional information iteratively obtained subsequently from the user and/or provider as in the present invention.

C. No Suggestion – While Durand et al. teach branching questions to create an initial profile of user and provider information, Applicant submits that it may not be fairly said that Durand et al. teach or suggest iteration, i.e., cyclically generating requests for additional information as a cascading series generated by the program code by referencing a knowledge base in a fully automated as in the present invention (see Applicant's independent claims 100 and 103). Thus, Applicant submits that Durand et al.'s description of AI and examples of AI do not amount to a teaching or suggestion to include in its

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matching system a knowledge base which is substantially separate from program code and which contains facts and rules for iterative problem solving so that an artisan would not be led or motivated to do so.

D. No motivation – Applicant respectfully points out that Applicant is not claiming to have invented expert systems or knowledge bases containing facts and rules for problem solving or the logical construct of iteration. Indeed, Applicant acknowledged that "expert systems of various kinds teach iterative convergent problem solving in conjunction with a knowledge base" and were known at the time the present invention was made, see page 19, first full paragraph of the Supplemental Amendment filed September 19, 2005, which the Examiner has cited as "admitted prior art". In turn, the Examiner acknowledged of record that Durand et al. do not teach a knowledge base *per se.*

The Examiner, however, has taken the position that it would have been obvious to one of ordinary skill in the art at the time the present invention was made to modify Durand et al. to include a knowledge base substantially separate from program code that references the knowledge base, in view of Applicant's own admission of prior art, in order to provide a system that utilizes knowledge from experts in the field thereby improving quality of customer service.

Applicant respectfully disagrees. Applicant considers that only the impermissible hindsight the Examiner gleaned from a perusal of Applicant's disclosure led the Examiner to consider modification of the matching system of Durand et al. to include a knowledge base so that this ground of rejection should be dropped. Applicant submits that a matching system artisan fully aware of the Durand et al. disclosure would find no teaching or suggestion in Durand et al. which would have led or motivated the artisan to modify the matching system of Durand et al. to include a knowledge base containing facts and rules for problem solving for the reasons given in the foregoing.

E. No convincing line of reasoning - Applicant additionally submits that the Examiner has given no convincing line of reasoning of where and/or how motivation for the modification is found in Durand et al. Regarding motivation, the Examiner states in the third full paragraph of page 3 of the Office Action dated December 6, 2005,

"It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Durand et al. to include a knowledge base substantially separate from program code that references the knowledge base, in view of applicant's own admission of prior art, in order to provide a system that utilizes knowledge from experts in the field thereby improving the quality of customer service".

This is not convincing because Applicant submits that nowhere in Durand et al. is there a teaching or suggestion to consult experts in the field and the Examiner has not pointed to any. In view

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of the mandate of M.P.E.P. §706.02(j) (D), that an Examiner should give "an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification", Applicant submits that Examiner Zeender has not met that burden.

M.P.E.P. §706.02(j) continues with:

> "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck* ...".
>
> "The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp* ...".

Thus, Applicant respectfully submits that the Examiner has not met this burden of suggestion for the combination and, even if combined for the sake of argument, the combination does not teach or suggest all the claim limitations of the claims as now amended (see claims 100 and 103) so that this ground of rejection clearly should be dropped

Independent claim 103 - The Examiner considers that the limitations of verifying and correcting information are well known in the art of database management so that to modify Durand et al. to include this capability would have been obvious to one of ordinary skill in the art to keep the information accurate. Applicant respectfully disagrees.

Claim 103 as amended is directed to verification and correction for the purpose of detecting misrepresentations due to puffing and outright lies regarding a provider's qualifications and skills. Misrepresentation detection is neither taught nor suggested in Durand et al. which merely asks the user and providers to verify that the information they gave is correct. Thus, claim 103 now recites:

> "...wherein the knowledge base contains ... (b) additional facts and rules used by the <u>matching</u> system <u>for misrepresentation detection by:</u> ~~to at least one of:~~ (1) ~~construct~~ <u>constructing</u> verification materials comprising requests for information <u>designed to measure actual abilities and character traits of respective ones of the at least one provider</u> for verification of the representations of <u>attributes thereof</u> ~~at least one provider,~~ <u>(2) obtaining verification results,</u> and ~~(2) carry~~ <u>(3) carrying</u> out correction of

the representations of <u>attributes of respective ones of the</u> at least the provider in light of the verification <u>results</u> ~~result~~."
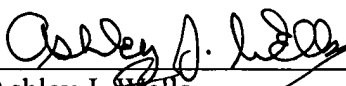
<u>Dependent claims</u> - The Examiner considers that the limitations recited are design choices that are known in e-commerce and other electronic activity, and to modify Durand et al. in view of Applicant's admission of prior art to incorporate the limitations would have been obvious to one of ordinary skill in the art to produce a desired result. Applicant respectfully disagrees.
Applicant considers that some of the dependent claims recite features which are not mere design choices. For example, claims 112 and 113 recite an adaptive knowledge base that updates the information contained in the knowledge base automatically. Claim 137 recites computing degree of matching without elimination of any order-provider pairings. Claim 178 recites continuing requests for additional information until an acceptable result is obtained. No prior art of record and no prior art known to Applicant teaches these features.

In view of the foregoing amendments and remarks, it is requested that the rejections of record be reconsidered and withdrawn, that claims 100-108, 110-137, 139, 176, and 178 as amended be allowed, and that the Application be found to be in allowable condition.

Should the Examiner not find the Application to be in allowable condition or believe that a further conference would be of value in expediting the prosecution of the Application, Applicants request that the Examiner telephone undersigned Counsel to discuss the case and afford Applicants an opportunity to submit any Supplemental Amendment that might advance prosecution and place the Application in allowable condition.

Respectfully submitted,

Date: April 6, 2006

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RAY KURZWEIL

The Singularity Is Near

WHEN HUMANS TRANSCEND BIOLOGY

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APPENDIX A

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that human civilization will experience, so it will take longer to mature than less complex technologies. It is characterized by the mastery of the most important and most powerful attribute of human civilization, indeed of the entire sweep of evolution on our planet: intelligence.

It's the nature of technology to understand a phenomenon and then engineer systems that concentrate and focus that phenomenon to greatly amplify it. For example, scientists discovered a subtle property of curved surfaces known as Bernoulli's principle: a gas (such as air) travels more quickly over a curved surface than over a flat surface. Thus, air pressure over a curved surface is lower than over a flat surface. By understanding, focusing, and amplifying the implications of this subtle observation, our engineering created all of aviation. Once we understand the principles of intelligence, we will have a similar opportunity to focus, concentrate, and amplify its powers.

As we reviewed in chapter 4, every aspect of understanding, modeling, and simulating the human brain is accelerating: the price-performance and temporal and spatial resolution of brain scanning, the amount of data and knowledge available about brain function, and the sophistication of the models and simulations of the brain's varied regions.

We already have a set of powerful tools that emerged from AI research and that have been refined and improved over several decades of development. The brain reverse-engineering project will greatly augment this toolkit by also providing a panoply of new, biologically inspired, self-organizing techniques. We will ultimately be able to apply engineering's ability to focus and amplify human intelligence vastly beyond the hundred trillion extremely slow interneuronal connections that each of us struggles with today. Intelligence will then be fully subject to the law of accelerating returns, which is currently doubling the power of information technologies every year.

An underlying problem with artificial intelligence that I have personally experienced in my forty years in this area is that as soon as an AI technique works, it's no longer considered AI and is spun off as its own field (for example, character recognition, speech recognition, machine vision, robotics, data mining, medical informatics, automated investing).

Computer scientist Elaine Rich defines AI as "the study of how to make computers do things at which, at the moment, people are better." Rodney Brooks, director of the MIT AI Lab, puts it a different way: "Every time we figure out a piece of it, it stops being magical; we say, *Oh, that's just a computation.*" I am also reminded of Watson's remark to Sherlock Holmes, "I thought at first that you had done something clever, but I see that there was nothing in it after all."[164] That has been our experience as AI scientists. The enchantment

APPENDIX B: Definitions of Artificial Intelligence

1. Source: WordNet ® 2.0, © 2003 Princeton University

artificial intelligence
n. Abbr. AI
1. The ability of a computer or other machine to perform those
activities that are normally thought to require intelligence.
The branch of computer science concerned with the development of
machines having this ability.

2. Source: The American Heritage® Dictionary of the English Language,
Fourth Edition, Copyright © 2000 byPublished by Houghton Mifflin Company.

artificial intelligence
n : the branch of computer science that deal with writing computer
programs that can solve problems creatively; "workers in AI hope to
imitate or duplicate intelligence in computers and robots" [syn: AI]

3. Source: The Free On-line Dictionary of Computing, © 1993-2005 Denis Howe

artificial intelligence

<artificial intelligence> (AI) The subfield of computer science
concerned with the concepts and methods of symbolic inference by
computer and symbolic knowledge representation for use in making
inferences. AI can be seen as an attempt to model aspects of human thought on
computers. It is also sometimes defined as trying to solve by computer any problem that a
human can solve faster. The term was coined by Stanford Professor John McCarthy, a
leading AI researcher.

Examples of AI problems are computer vision (building a system that can
understand images as well as a human) and natural language processing
(building a system that can understand and speak a human language as well as a human).
These may appear to be modular, but all attempts so far (1993) to solve them have
foundered on the amount of context information and "intelligence" they
seem to require.

The term is often used as a selling point, e.g. to describe programming
that drives the behaviour of computer characters in a game. This is
often no more intelligent than "Kill any humans you see; keep walking;
avoid solid objects; duck if a human with a gun can see you".